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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/767,761

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Gordon B. Hirschman

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02/06/2007

HESLIN ROTHENBERG FARLEY & MESITI PC
5 COLUMBIA CIRCLE
ALBANY, NY 12203

EXAMINER

TOWA, RENE T

ART UNIT

PAPER NUMBER

3736

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/06/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/767,761

Applicant(s)

HIRSCHMAN ET AL.

Examiner

Rene Towa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-6, 8, 9, 11-13, 16 and 35-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-6, 8, 9, 11-13, 16, 35, 36 and 38-40 is/are rejected.
- 7) ☒ Claim(s) 37 and 41 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
- Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is responsive to an amendment filed on November 20, 2006. Claims 2-6, 8-9, 11-13, 16, and 35-41 are pending. Claims 2-3, 8-9, 11, 13 and 16 are amended. New claims 35-41 have been added. Claims 1, 7, 10, 14-15 and 17-34 have been cancelled.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 2-6, 8, 11, 16 and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Calame et al. (US Patent No. 6,360,598).

In regards to claim 35, Calame et al. discloses a method for simultaneously visualizing horizontal shear force and distributed vertical pressure acting on a skin surface, the shear force and distributed pressure for being sensed at distributed points along the skin surface by an array of sensors, comprising:

displaying an image of a flat rectangular grid representing a plane where the skin surface meets the array of sensors;

deforming line intersections of the grid in the image sideways in a plane of the grid in accordance with the distributed pressure sensed by the array of sensors; and

using color mapping to display distributed vertical pressure sensed by the array of sensors, whereby the distributed horizontal shear force and the distributed vertical pressure acting on the skin surface at the distributed points are displayed concurrently

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and differentially (see figs. 2-3; column 1/lines 22-28, 35-40 & 48-57; column 2/lines 29-33, 35-38, 42-46 & 54-59; see claim 2 of Calame et al.).

Calame et al. disclose a system including a processing unit that displays images of signals from the pressure distribution and the force (see column 1/lines 21-28; column 2/lines 41-46); wherein the force may include shear force components F_x and F_y (see column 2/lines 28-33); Calame et al. further disclose that both signals may be overlaid [when displayed] (i.e. concurrently) and/or displayed independently (i.e. differentially) displayed (see column 2/lines 41-46). As such, an exemplary grid display of the pressure distribution is shown in figs. 2; another exemplary display is shown in fig. 3, wherein the display may be shown as a multicolor mapping (see column 2/lines 54-59).

In regards to claim 36, Calame et al. disclose a method wherein said color mapping comprising mapping a flat plane representative of vertical pressure (see fig. 3).

In regards to claim 2, Calame et al. discloses a method further comprising:

superimposing the image of the grid on an outline of the skin surface (see fig. 2).

In regards to claim 3, Calame et al. discloses a method wherein the grid comprises a rectangular grid and intersections of lines of the grid when undeformed correspond to locations of said sensors in said array (see fig. 2).

In regards to claim 4, Calame et al. discloses a method wherein points on outside edges of the grid comprise anchor points, which create a fixed reference that frames the image (see fig. 2).

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In regards to claim 5, Calame et al. discloses a method wherein the anchor points are represented with zero force (see fig. 2).

In regards to claim 6, Calame et al. discloses a method wherein the intersections of the lines of the grid in the image are displaced in proportion to the force measured at said sensors (see fig. 2).

In regards to claim 8, Calame et al. discloses a method wherein the skin surface comprises a plantar surface of a foot (see fig. 2).

In regards to claim 11, Calame et al. discloses a method wherein said color mapping comprises color mapping of the same plane as that of the grid (see fig. 3; column 2/lines 54-59).

It is noted that figure 3 of Calame et al. discloses a colored contour map of the vertical pressure, which is measured in the same plane as the shear force and therefore parallel thereto.

In regards to claim 16, Calame et al. discloses a method wherein said force and said second force are measured with different arrays of sensors (3, 4) (see column 1/lines 22-28).

Since Calame et al. teach measuring distributed vertical force and total shear force, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to provide a method similar to that of Calame et al. with an array for measuring distributed shear forces since such a modification would amount to a well-known design choice that would serve the purpose of providing greater resolution. For example, a single sensor array provides shear force a single point

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whereas an array of sensors provides a plurality of shear force measurements. Even moreover, it has previously been held that duplicating a part (i.e. number of shear force sensors) for a multiple effect is not patentable--See *In re Harza*, 274 F.2d 669, 671, 124 USPQ 378, 380 (CCPA 1960).

Although Calame et al. does not explicitly disclose a representation of distributed shear force, Calame et al. disclose a system combination (i.e. for the simultaneous detection and representation of shear and normal forces, see column 1/lines 48-57) with a normal force representation substantially as claimed; as such, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to provide a system similar to that of Calame et al. with a distributed shear force representation since such a modification would amount to a design choice. It has previously been held that changing aesthetic design (i.e. displaying a distributed shear force in substantially the same manner as Calame et al.'s normal force representation) is not patentable--See *In re Seid*, 161 F.2d 229, 231, 73 USPQ 431, 433 (CCPA 1947).

More in regard to claim 35, since Calame et al. teach overlaying the shear and normal force signals (see column 2/lines 42-46), it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to provide a system similar to that of Calame et al. with overlaid images since it allows for the simultaneous overall monitoring of all the force components (see column 1/lines 35-40 & 48-54).

Furthermore, in regards to claim 16, since Calame et al. teach combining the shear and normal force measurement systems (see column 1/lines 22-28; column 2/lines 42-46), it would have been obvious to one of ordinary skill in the art at the time

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Applicant's invention was made to provide a system similar to that of Calame et al. to measure both the shear and normal forces with the same array since such a modification would amount to a design choice. It has previously been held that making integral is not patentable--*See in re Larson*, 340 F. 2d 965, 967, 144 USPQ 347, 349 (CCPA 1965); *In re Wolfe*, 251 F.2d 854, 855, 116 USPQ 443, 444 (CCPA 1958).

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Calame et al. ('598) in view of Kaneko et al. (US Patent No. 6,186,000).

Calame et al. disclose a system, as described above, that teaches all the limitations of the claim except Calame et al. do not teach displaying a field of scaled arrows relative to a direction and magnitude of sensed force. However, Kaneko et al. disclose a system comprising displaying a field of arrows relative to a direction of sensed force (see column 3/lines 34-45; column 4/lines 37-41 & 44-49; column 5/lines 3-5; column 6/lines 2-7).

Since Calame et al. discloses displaying a force relative to the magnitude of the sensed force (see fig. 2), it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to provide a system similar to that of Calame et al. with a field of arrows similar to that of Kaneko et al. in order to indicate the magnitude and direction of the force (see Kaneko et al., column 6/lines 6-7).

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Calame et al. ('598) in view of Franks (US Patent No. 4,858,621).

Calame et al. disclose a system, as described above, that teaches all the limitations of the claim except Calame et al. do not teach a linear color mapping.

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However, Franks discloses a system comprising a linear color mapping (see figs. 9a-h; column 6/lines 30-39). It would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to provide a system similar to that of Calame et al. with a linear color mapping similar to that of Franks for easier recognition by the user (see Franks, column 6/lines 30-33).

6. Claims 13 and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Calame et al. ('598) in view of Sol (US Patent No. 6,231,527).

Calame et al. disclose a system, as described above, that teaches all the limitations of the claim except Calame et al. do not teach automatically determining and highlighting (i.e. through shading) a location of maximum value of said measured forces. However, Sol discloses determining and highlighting a location of maximum value of measured forces; wherein said highlighting comprises displaying a marker 30,32,40 or 44; wherein the marker is displayed at a location of maximum value for over a period of time (see figs. 1-1A, 4-4A & 5-5A; column 5/lines 43-47 & 63-67; column 7/lines 8-13). It would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to provide a system similar to that of Calame et al. with a step of determining and highlighting a location with a marker similar to that of Sol in order to easily analyze the user's posture by discernably observing the pressure/force variations (see Sol, see Abstract at lines 1-3; see figs. 1-1A).

Allowable Subject Matter

7. Claims 37 and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed November 20, 2006 have been fully considered but they are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

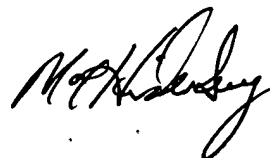
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rene Towa whose telephone number is (571) 272-8758. The examiner can normally be reached on M-F, 8:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (571) 272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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